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EXAMINER

HAN, CLEMENCE S

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/821,708	Applicant(s) MCALLISTER ET AL.	
	Examiner CLEMENCE HAN	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-26, 28-40 and 42-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-26, 28-40 and 42-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 45 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Due to the amendment made in the parent claim 42, the claim 45 now recites triggering both a hard reroute and a soft reroute. The specification discloses a hard reroute or a soft reroute, not both.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claim 23-25, 30, 31, 33 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Srinivasan et al. (US 6,304,549).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1-9, 12-15, 17-26, 28-31 and 33-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al. (US 6,304,549) in view of Cedrone et al. (US 6,538,987).

Regarding to claim 1, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: establishing the connection in the data communication network, wherein the connection is managed by a control plane 105, 200 (Column 7 Line 32-41); monitoring status of a selected characteristic of the connection using a user connection monitoring function 315; and when the status of the selected characteristic is determined to be unacceptable, initiating control plane rerouting of the connection (Column 17 Line 22-25), wherein the user connection monitoring function includes OAM continuity checking (Column 16 Line 58-66). Srinivasan, however, does not teach explicitly detecting a loss of continuity for a predetermined time period. Cedrone teaches detecting a loss of continuity for a predetermined time period (Column 8 Line 39-47). It would have been obvious to one skilled in the art to modify Srinivasan to detect a loss of continuity for a predetermined time period as taught by Cedrone in order to determine if it should initiate rerouting or not (Column 8 Line 44).

Regarding to claim 2, Srinivasan teaches the selected characteristic includes continuity on the connection (Column 17 Line 1-4).

Regarding to claim 3, Srinivasan teaches the selected characteristic includes at least one of: data corruption on the connection, data loss on the connection, latency along the connection, and misinsertion of data on the connection (Column 2 Line 57-61).

Regarding to claim 4, Srinivasan teaches the data communication network supports asynchronous transfer mode (ATM) protocol (Column 5 Line 2-8).

Regarding to claim 5, Srinivasan teaches the control plane is a signaling plane (Column 5 Line 43 – Column 6 Line 12, see Figure 3).

Regarding to claim 6, Srinivasan teaches the signaling plane uses private network-to-network interface (PNNI) 56.

Regarding to claim 7, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Regarding to claim 8, Srinivasan teaches the connection is a switched connection (Figure 1).

Regarding to claim 9, Srinivasan teaches the user connection monitoring function utilizes operation and management (OAM) traffic (Column 16 Line 58-62).

Regarding to claim 12, Srinivasan teaches the user connection monitoring function includes OAM performance monitoring (Column 16 Line 58-66).

Regarding to claim 13, Cedrone teaches determining that the status of the selected characteristic is unacceptable further comprises determining that a property of the selected characteristic exceeds a predetermined threshold (Column 8 Line 39-47).

Regarding to claim 14, Cedrone teaches the selected characteristic further comprises a plurality of selected characteristics, wherein each selected characteristic of the plurality of selected characteristics has a corresponding predetermined threshold, wherein determining that the status of the selected characteristic is unacceptable includes determining that a property corresponding to at least one selected characteristic of the plurality of selected characteristics exceeds the corresponding predetermined threshold for the at least one selected characteristics (Column 8 Line 39-47).

Regarding to claim 15, Cedrone teaches at least a portion of the corresponding predetermined thresholds for the plurality of selected characteristics is configurable (Column 8 Line 39-47).

Regarding to claim 17, Srinivasan teaches initiating control plane rerouting of the connection further comprises initiating a soft reroute (Column 17 Line 22-25).

Regarding to claim 18-20, Srinivasan in view of Cedrone does not teach the specific protocols. It would have been obvious to one skilled in the art to modify Srinivasan in view of Cedrone to be used with MPLS, LDP or RSVP and LSP in order to adapted to specific network.

Regarding to claim 21, Srinivasan teaches the user connection monitoring function monitors continuity along the connection (Column 16 Line 58-66).

Regarding to claim 22, Srinivasan teaches the user connection monitoring function monitors at least one of: data corruption on the connection, data loss on the connection,

latency along the connection, and misinsertion of data on the connection (Column 16 Line 58-66).

Regarding to claim 23, Srinivasan teaches a data communication network, comprising: a source node (End Host A in Figure 1); a destination node (End Host B in Figure 1) operably coupled to the source node via a first connection that carries a data stream, wherein the source node injects diagnostic traffic into the data stream, wherein the destination node monitors the diagnostic traffic (OAM in Column 16 Line 58-62) in the data stream; and a control block 50 operably coupled to the source node and the destination node, wherein when status of a selected characteristic associated with the diagnostic traffic is determined to be unacceptable, the control block performs a control plane reroute that establishes a second connection that couples the source node and the destination node (Column 17 Line 22-25), wherein the diagnostic traffic includes operation and management (OAM) performance monitoring traffic (Column 16 Line 58-66). Srinivasan, however, does not teach explicitly the diagnostic traffic verifies that a level of user plane performance that has been guaranteed to a user is being provided. Cedrone teaches the diagnostic traffic verifies that a level of user plane performance that has been guaranteed to a user is being provided (Column 10 Line 31-47). It would have been obvious to one skilled in the art to modify Srinivasan to verify that a level of user plane performance that has been guaranteed to a user is being provided as taught by Cedrone in order to provide status information (Column 10 Line 35).

Regarding to claim 24, Srinivasan teaches the data stream includes a plurality of asynchronous transfer mode (ATM) cells (Column 5 Line 2-8).

Regarding to claim 25, Srinivasan teaches the diagnostic traffic includes operation and management (OAM) continuity checking traffic (Column 16 Line 58-66).

Regarding to claim 26, Cedrone teaches detecting a loss of continuity for a predetermined time period (Column 8 Line 39-47).

Regarding to claim 28, Cedrone teaches the status of the selected characteristic is determined to be unacceptable when a property associated with OAM performance monitoring exceeds a predetermined threshold (Column 8 Line 39-47).

Regarding to claim 29, Cedrone teaches the predetermined threshold is configurable (Column 8 Line 39-47).

Regarding to claim 30, Srinivasan teaches the first and second connections are soft permanent virtual circuits (Column 2 Line 32).

Regarding to claim 31, Srinivasan teaches the first and second connections are switched connections (Figure 1).

Regarding to claim 33, Srinivasan teaches the control block establishes the second connection as a part of a soft reroute (Column 17 Line 22-25).

Regarding to claim 34, Srinivasan teaches a data communication network, comprising: a source node (End Host A in Figure 1); a destination node (End Host B in Figure 1) operably coupled to the source node via a first connection that carries a data stream, wherein the source node injects diagnostic traffic into the data stream, wherein

the destination node monitors the diagnostic traffic (OAM in Column 16 Line 58-62) in the data stream; and a control block 50 operably coupled to the source node and the destination node, wherein when status of a selected characteristic associated with the diagnostic traffic is determined to be unacceptable, the control block performs a control plane reroute that establishes a second connection that couples the source node and the destination node (Column 17 Line 22-25), wherein the diagnostic traffic includes operation and management (OAM) performance monitoring traffic (Column 16 Line 58-66). Srinivasan, however, does not teach explicitly the diagnostic traffic verifies that a level of user plane performance that has been guaranteed to a user is being provided. Cedrone teaches the diagnostic traffic verifies that a level of user plane performance that has been guaranteed to a user is being provided (Column 10 Line 31-47). It would have been obvious to one skilled in the art to modify Srinivasan to verify that a level of user plane performance that has been guaranteed to a user is being provided as taught by Cedrone in order to provide status information (Column 10 Line 35). Srinivasan in view of Cedrone, however, does not teach the specific protocols. It would have been obvious to one skilled in the art to modify Srinivasan in view of Cedrone to be used with MPLS and LSP in order to adapted to specific network.

Regarding to claim 35, Srinivasan teaches the selected characteristic includes at least one of: data corruption on the first connection, data loss on the first connection, latency along the first connection, and misinsertion of data on the first connection (Column 2 Line 57-61).

Regarding to claim 36, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: establishing the connection in the data communication network (Column 2 Line 32), wherein the connection is managed by a control plane 105, 200 (Column 7 Line 32-41); using operation and management (OAM) cells to monitor at least one characteristic of the connection (Column 16 Line 58-62); and when status of the at least one characteristic is determined to be unacceptable, initiating control plane rerouting of the connection (Column 17 Line 22-25), wherein the OAM traffic comprises OAM continuity checking traffic, wherein the at least one characteristic includes continuity (Column 16 Line 58-66). Srinivasan, however, does not teach explicitly detecting a lack of continuity for a time period that exceeds a configurable threshold. Cedrone teaches detecting a lack of continuity for a time period that exceeds a configurable threshold (Column 8 Line 39-47). It would have been obvious to one skilled in the art to modify Srinivasan to detect a lack of continuity for a time period that exceeds a configurable threshold as taught by Cedrone in order to determine if it should initiate rerouting or not (Column 8 Line 44).

Regarding to claim 37, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Regarding to claim 38, Srinivasan teaches the connection is switched virtual connection (SVC) (Column 7 Line 61-65).

Regarding to claim 39, Srinivasan teaches the control plane is a signaling plane (Column 5 Line 43 – Column 6 Line 12, see Figure 3).

Regarding to claim 40, Srinivasan teaches the signaling plane uses private network-to-network interface (PNNI) 56.

7. Claim 16 and 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al. in view of Cedrone et al. as applied to claim 1 and 23 respectively above, and further in view of So (US 6,735,176).

Regarding to claim 16 and 32, Srinivasan in view of Cedrone does not teach initiating a hard reroute. So teaches initiating a hard reroute (Column 2 Line 22-28). It would have been obvious to one skilled in the art to modify Srinivasan in view of Cedrone to initiate a hard reroute as taught by So in order to be used for connection recovery or priority control features (Column 2 Line 25-26).

8. Claim 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al. in view of So.

Regarding to claim 42, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: detecting a fault in the connection in the user plane 315; and triggering a reroute of the connection in the control plane based on the fault detected (Column 17 Line 22-25). Srinivasan, however, does not teach triggering a hard reroute. So teaches triggering a hard reroute (Column 2 Line 22-28). It would have been obvious to one skilled in the art to modify Srinivasan to trigger a hard reroute as taught by So in order to be used for connection recovery or priority control features (Column 2 Line 25-26).

Regarding to claim 43, Srinivasan teaches detecting a fault further comprises

detecting a fault using operation and management (OAM) services running within the user plane (Column 16 Line 58-62).

Regarding to claim 44, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Regarding to claim 45, Srinivasan teaches triggering a reroute further comprises triggering a soft reroute (Column 17 Line 22-25).

Response to Arguments

9. Applicant's arguments with respect to claim 1-9, 12-26, 28-40 and 42-45 have been considered but are moot in view of the new ground(s) of rejection.

10. In response to page 9, the examiner notes that the 112 rejection on claim 45 has not been addressed.

11. In response to page 10-21, the applicant argues that Srinivasan does not teach “the data stream includes a plurality of asynchronous transfer mode (ATM) cells”. Since Srinivasan teaches using ATM protocol (Column 5 Line 2-8), Srinivasan teaches the data stream including a plurality of ATM cells. The applicant further argues that Srinivasan does not teach “OAM continuity checking traffic”. Srinivasan teaches OAM checking link failure (Column 16 Line 58-66). The applicant further argues that Srinivasan does not teach “SPVC”. Srinivasan teaches SPVC (Column 2 Line 32). The applicant further argues that Srinivasan does not teach “the first and second connections are switched connections”. Srinivasan teaches the first and second connection as a switched connections (Figure 1). The applicant further argues that Srinivasan does not teach “the

control block establishing the second connection as a part of a soft reroute”. Srinivasan teaches the control block establishing the second connection as a part of a soft reroute (Column 17 Line 22-25). The applicant further argues that Srinivasan does not teach “the selected characteristic includes at least one of: data corruption on the first connection, data loss on the first connection, latency along the first connection, and misinsertion of data on the first connection” (Column 2 Line 57-61). Srinivasan teaches monitoring congestions and failures (Column 2 Line 57-61). The applicant further argues that Srinivasan does not teach the connection is managed by a control plane. Srinivasan teaches the connection is managed by a control plane 105, 200 (Column 7 Line 32-41). The applicant further argues that Srinivasan does not teach monitoring status of a selected characteristic of the connection using a user connection monitoring function. Srinivasan teaches monitoring status of a selected characteristic of the connection using a user connection monitoring function 315. The applicant further argues that Srinivasan does not teach when the status of the selected characteristic is determined to be unacceptable, initiating control plane rerouting of the connection. Srinivasan teaches when the status of the selected characteristic is determined to be unacceptable, initiating control plane rerouting of the connection (Column 17 Line 22-25). The applicant further argues that Cedrone teaches away from Srinivasan. Srinivasan teaches detecting a loss of continuity (Column 2 Line 57-61). Cedrone teaches detecting a loss of continuity for a predetermined time period (Column 8 Line 39-47). The examiner fails to see why these two references are not combinable. The applicant further argues that Srinivasan does not

teach the control plane is a signaling plane. Srinivasan teaches the control plane is a signaling plane (Column 5 Line 43 – Column 6 Line 12, see Figure 3). The applicant further argues that Srinivasan teaches away from SPVC. Srinivasan teaches SPVC as one of the method (Column 2 Line 29-32). The applicant further argues that Srinivasan teaches switched connections only as a prior art and teaches away from them. Srinivasan teaches switched connections (Column 6 Line 13-26). The applicant further argues that Cedrone does not teaches a predetermined threshold. Cedrone teaches a predetermined threshold 402, 404. The applicant further argues that Cedrone does not teach the plurality of selected characteristics. Cedrone teaches the plurality of selected characteristics 402, 408. The applicant further argues that Cedrone does not teach configurable thresholds. Cedrone teaches “a predetermined minimum number” (Column 8 Line 51) and “an appropriate number” (Column 8 Line 54). The applicant further argues that Srinivasan does not teach control plane rerouting initiating a soft reroute. Srinivasan teaches control plane rerouting initiating a soft reroute (Column 17 Line 22-25, It is not break-before-make hard reroute). The applicant further argues that Srinivasan in view of Cedrone does not teach MPLS, LDP or RSVP and LSP. The examiner agrees that Srinivasan in view of Cedrone does not teach specific network protocol. However, it is well known protocol and it would have been obvious to one skilled in the art to modify Srinivasan in view of Cedrone to be used with MPLS, LDP or RSVP and LSP in order to adapted to specific network. The applicant further argues that Srinivasan does not teach detecting a fault using operation and management (OAM) services running within the user plane.

Srinivasan teaches detecting a fault using operation and management (OAM) services running within the user plane (Column 16 Line 58-62). Therefore, the examiner contends that the prior arts in the record teaches all the limitation as recited in the claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CLEMENCE HAN whose telephone number is (571)272-3158. The examiner can normally be reached on Monday-Friday 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on (571) 272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. H./
Primary Examiner, Art Unit 2616

/FIRMIN BACKER/
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